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FROMMER LAWRENCE & HAUG
745 FIFTH AVENUE- 10TH FL.
NEW YORK, NY 10151

EXAMINER

WRIGHT, ANDREW D

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 03/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,739

Applicant(s)

EAGLES ET AL

Examiner

Andrew Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 and 47-82 is/are pending in the application.
- 4a) Of the above claim(s) 49-61, 75 and 76 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 62-66 is/are allowed.
- 6) ☒ Claim(s) 1-6, 12, 18-26, 29, 31, 34, 40-45, 47, 48, 67-74 and 77-79 is/are rejected.
- 7) ☒ Claim(s) 7-11, 13-17, 27, 28, 30, 32, 33, 35-39 and 80-82 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 26, and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 4 recites "the two longitudinal stiffening beams", where before only "at least two ... beams" has been recited. This renders the claim indefinite as it is unclear if the invention contains only two beams or if it contains more than two beams.

Suggested wording: "the at least two longitudinal stiffening beams".

4. Claim 26 recites "a reinforcing fiber" while claim 18 has already recited "fiber reinforcements." It is unclear if the reinforcing fiber of claim 26 is included in the "fiber reinforcements," or if it is a different element. This renders claim 26 indefinite.

5. Claim 48 depends from a cancelled claim, and therefore is indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 67 and 70 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nishizawa et al. (US 3,561,219). Nishizawa discloses a flexible containment vessel that

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holds fluidisable material. The vessel comprises multiple elongate, tubular structures of woven, seamless fabric. The tubular structure has front and rear ends that are sealable. The tubular structures are fillable. The tubular structures are impervious to fluidisable material of a size greater than the voids of the woven fabric. Nishizawa teaches that the vessel is used to hold sand or gravel. A large grouping of ping pong balls is a fluidisable material that has a density less than that of salt water. Since the vessel is impervious to the fluidisable material of sand, the vessel will also be impervious to the fluidisable material of ping pong balls. The tubular structures are held together by a woven flat fabric that is woven seamless with the tubular structures and positioned therebetween. The tubular structures are pod shaped.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 12, 18-24, 29, 31, 34, and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawthorne et al. (US 2,997,973) in view of Sharpless et al. (US 5,421,128). Hawthorne discloses a fluid containment vessel for use with fluid cargo. The vessel comprises an elongate, tubular structure made of seamless, woven fabric (column 1, lines 64-72). Hawthorne discloses the practice of proofing the woven material to make it impervious to the liquid carried within. The tubular structure has front and rear ends, as seen in the figures. The front and rear ends are shaped into a

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conical form and are further provided with end members (12) for sealing. The structure has filling and emptying pipes that are flexible and blended into the fabric of the vessel (column 1, lines 33-34). Hawthorne does not disclose at least one longitudinal stiffening beam, said beam being integral with the tubular structure. Sharpless discloses a woven, elongated, tubular structure that has longitudinal stiffening beams. Sharpless discloses that the beams may take the form of reinforcing fibers (4) woven into the fabric (3), or reinforcing tape (8) bonded to the outer surface of the fabric (3). The reinforcing fibers are considered integral with the fabric since they are woven together. The reinforcing fibers enhance the bending stiffness of the tubular structure. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hawthorne by using interwoven longitudinal reinforcing beams. The motivation would be to enhance bending stiffness so as to reduce the common problem of oscillation of the vessel. The beams are subject to the pressurization and depressurization of the atmosphere of the vessel.

10. Regarding claim 2-4, Sharpless discloses a plurality of stiffening beams, including two that are equidistant from each other on the tubular structure with a third placed intermediate the two (figure 4).

11. Regarding claim 5, Sharpless discloses that the beams are continuous.

12. Regarding claim 6, Sharpless does not disclose that the beams are sectional.

One skilled in the art, however, would have the knowledge and capability to utilize sectional instead of continuous reinforcing beams. Sectional beams would provide the same bending stiffness as continuous beams. Therefore it would have been obvious to

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one having ordinary skill in the art at the time the invention was made to further modify the invention of Hawthorne by using sectional beams. The motivation would be to optimize manufacturing processes.

13. Regarding claim 12, Hawthorne provides an end cap for sealing.

14. Regarding claims 18-20, Sharpless discloses at least ten longitudinal fibers (4) in figure 4. Two can be considered to be longitudinal stiffening beams, while the others can be considered as fiber reinforcements. Sharpless discloses that the fibers are Kevlar (polyaramid) and the weave can be seen in figure 3.

15. Regarding claims 21-24, Hawthorne discloses that the fabric weave is proofed to make it impervious to the liquid carried within. Hawthorne disclose the use of elastomers and resins as the proofing material that is applied to the woven fabric. This falls within the claimed group.

16. The modified invention of Hawthorne as described with respect to claims 1-6, 12, and 18-24 contains all of the elements of claims 29, 34, and 40-45.

17. Regarding claim 31, Sharpless disclose that the reinforcing fibers have a higher tensile strength than that of the fibers of the fabric.

18. Claims 25, 26, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified invention of Hawthorne ('973) as applied to claims 1 and 19 above, respectively, and further in view of Lowe (US 4,668,545). Hawthorne does not disclose the use of fibers with low melting points to fill the voids in the weave. Lowe discloses a shaped woven article that comprises holt-melt fibers that make the fabric impervious. Holt-melt fiber is known in the art and is an alternate way of coating a fabric

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as opposed to spray or dip coating or providing an inner bag. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to use hot-melt fibers to create the impervious coating. The skilled artisan would be motivated to use hot-melt coating to optimize design parameters such as manufacturing costs and methods.

19. The modified invention of Hawthorne as described with respect to claims 25 and 26 contains all of the elements of claims 47 and 48.

20. Claims 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizawa et al. (US 3,561,219) in view of Hawthorne et al. (US 2,997,973).

Nishizawa discloses a flexible containment vessel that holds fluidisable material. The vessel comprises multiple elongate, tubular structures of woven, seamless fabric. The tubular structure have front and rear ends that are sealable. The tubular structures are fillable. The tubular structures are held together by a woven flat fabric that is woven seamless with the tubular structures and positioned therebetween. Nishizawa does not disclose that the means for filling and emptying comprises a tube woven seamless with the fabric. Hawthorne discloses a flexible fluid container that is formed of an elongate, flexible tubular structure of seamless, woven material. The filling and emptying means of Hawthorne comprises tubes that are woven integral with the fabric. One would be motivated to use the filling and extracting means disclosed by Hawthorne in order to fill and empty the Nishizawa vessel when it is disposed in the ground. This would allow easy access to the interior of the Nishizawa vessel. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to

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modify the invention of Nishizawa by using the integrally woven filling and emptying pipe taught by Hawthorne.

21. Claims 71-74 and 77-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawthorne et al. (US 2,997,973) in view of Ashton (GB 826,301). Hawthorne discloses a fluid containment vessel for use with fluid cargo. The vessel comprises an elongate, tubular structure made of seamless, woven fabric (column 1, lines 64-72). Hawthorne discloses the practice of proofing the woven material to make it impervious to the liquid carried within. The tubular structure has front and rear ends, as seen in the figures. The front and rear ends are shaped into a conical form and are further provided with end members (12) for sealing. The structure has filling and emptying pipes that are flexible and blended into the fabric of the vessel (column 1, lines 33-34). Hawthorne does not disclose at least one longitudinal stiffening beam held in a pocket, said pocket being woven seamlessly with the woven fabric. Ashton discloses a flexible fluid containment vessel that comprises longitudinal stiffening beams (7) disposed in pockets (8 and 9) on the outside of the vessel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hawthorne by employing stiffening beams as taught by Ashton. The motivation would be to reduce harmful oscillation of the towed vessel. Furthermore, it would have been obvious to seamlessly weave the pockets to the woven fabric of the tubular structure. Ashton does not disclose a method of attachment. Seamless weaving of the pockets to the fabric would be within the scope of knowledge and capability of the skilled artisan who constructed the entire vessel of a seamlessly

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woven fabric. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Hawthorne by weaving the pockets to the tubular fabric. The motivation would be to produce a unitary structure without the use of adhesives.

22. Regarding claims 72 and 73, Ashton discloses a plurality of stiffening beams. Ashton does not disclose the spacing of the beams. However, a symmetric spacing about the circumference of the tubular vessel is an obvious option. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Hawthorne by using at least two beams positioned equidistant about the tubular structure. The motivation would be to create a balanced vessel.

23. Regarding claim 74, the beams disclosed by Ashton are continuous and each individual pocket is continuous.

24. The elements of claims 77 and 78 are included in the modified invention of Hawthorne as described above with respect to claims 71-74.

25. Regarding claim 79, Hawthorne discloses pleats (35) in the fabric. These pleats constitute sections of the fabric joined together.

Allowable Subject Matter

26. Claims 62-66 are allowed.

27. Claims 7-11, 13-17, 27, 28, 30, 32, 33, 35-39 and 80-82 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

28. Applicant's arguments with respect to claims 67 and 70 have been considered but are moot in view of the new ground(s) of rejection.

29. Applicant's arguments, see Paper #14, filed 12/17/02, with respect to claims 7-11, 13-17, 27, 28, 30, 32, 33, 35-39, 62-66, and 80-82 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

30. Applicant's arguments, see Paper #14, filed 12/17/02, with respect to the remaining claims have been fully considered and are not persuasive.

31. Regarding claims 1-6, 12, 18-24, 29, 31, 34, and 40-45, applicant puts forth numerous arguments including: no motivation to combine supplied by the references, hindsight reasoning by the examiner, and the Hawthorne teaches away from the use of stiff and rigid materials.

32. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

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33. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner has recited motivation that is within the knowledge generally available to one of ordinary skill in the art.

34. In response to applicant's arguments that Hawthorne teaches away from the use of stiff and rigid materials, it is noted that Hawthorne teaches a "collapsible all fabric tanker" in line 10 of column 2. The addition of longitudinal stiffening fibers, as suggested in the rejection, would not, however, prevent the modified tanker of Hawthorne from being collapsible.

35. Regarding claims 25, 26, 47, 48, 68, 69, 71-74 and 77-79, applicant argues that there is not motivation to combine. Again, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed.

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Cir. 1992). In this case, the examiner has recited motivation that is within the knowledge generally available to one of ordinary skill in the art.

Conclusion

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

37. Any inquiry concerning this communication should be directed to examiner Andrew D. Wright at telephone number (703) 308-6841. The examiner can normally be reached Monday-Friday from 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano, can be reached at (703) 308-0230. The fax number for official communications is 703-872-9326 for before final proceedings and 703-872-9327 for after final proceedings. The fax number for the examiner for unofficial communications is 703-746-3548.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1113.

Andrew D. Wright
Patent Examiner
Art Unit 3617

AW 3/5/03



S. JOSEPH MORANO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600